

CLAIMS

1. An aroma dispensing device, comprising:

liquid supplying means for supplying liquid containing at least one volatile
5 component to a liquid outlet,

electric field providing means for causing comminution of liquid issuing
from the outlet and evaporation from the electrically charged comminuted matter
of at least a part of the at least one volatile component to produce scented vapour
which then disperses, and

10 collection means for collecting electrically charged comminuted matter
from which at least a part of the at least one volatile component has evaporated.

2. A device according to claim 1, further comprising flow directing means
for directing scented vapour away from the liquid outlet and the collection means.

3. A device according to Claim 2, wherein the flow directing means
comprises at least one of an ion wind generator and an air flow generator.

4. A device according to claim 1, 2 or 3, wherein the collection means
20 comprises a collection electrode.

5. A device according to claim 1, 2, 3 or 4, wherein the collection means
comprises a collection receptacle.

6. A device according to claim 5, wherein the collection receptacle is
25 configured to inhibit dispersal of aroma from the collection receptacle.

7. A device according to claim 5 or 6, wherein the collection receptacle
comprises an aroma suppressing material such as activated charcoal.

8. A device having a dispensing outlet and comprising:

liquid supplying means for supplying liquid containing at least one volatile component to a liquid outlet, electric field providing means for causing liquid issuing from the outlet to provide electrically charged droplets from which at least a part of the at least one volatile component evaporates to produce scented vapour or aroma that is dispensed through the dispensing outlet, and collection means having attracting means for attracting electrically charged droplets and a collection receptacle for collecting the electrically charged droplets attracted by the attracting means.

9. A device having a housing and comprising:

liquid supplying means for supplying liquid containing at least one volatile component to a liquid outlet,

electric field providing means for causing liquid issuing from the liquid outlet to provide electrically charged droplets from which at least a part of the at least one volatile component evaporates to produce vapour, and

collection means having attracting means opposed to the liquid outlet for attracting electrically charged droplets from which at least a part of the at least one volatile component has evaporated, and a collection receptacle for collecting the electrically charged droplets attracted by the attracting means, the housing having a dispensing outlet offset from a line between the liquid outlet and the attracting means from which vapour disperses from the housing.

10. A device according to claim 8 or 9, further comprising flow directing means for directing vapour towards the dispensing outlet.

11. A device according to Claim 10, wherein the flow directing means comprises at least one of an ion wind generator and an air flow generator.

12. A device according to claim 8, 9, 10 or 11, wherein the attracting means comprises a collection electrode.

13. A device according to claim 8, 9, 10, 11 or 12, wherein the collection receptacle is configured to inhibit dispersal of aroma from the collection receptacle.

5 14. A device according to claim 8, 9, 10, 11 or 12, wherein the collection receptacle comprises an aroma suppressing material such as activated charcoal.

10 15. A device having a housing with a dispensing outlet, the housing containing a liquid supplier for supplying liquid containing at least one volatile component to a liquid outlet, an electric field provider for causing liquid issuing from the liquid outlet to provide electrically charged droplets from which at least a part of the at least one volatile component evaporates to produce vapour, a collector for collecting electrically charged droplets, and a flow director for directing vapour away from the collector and towards the dispensing outlet.

15 16. A device having a housing with a dispensing outlet, the housing containing a liquid supplier for supplying liquid containing at least one volatile component to a liquid outlet, an electric field provider for causing liquid issuing from the liquid outlet to provide electrically charged droplets from which at least a part of the at least one volatile component evaporates to produce vapour, a collector for collecting electrically charged droplets to inhibit the electrically charged droplets from passing through the dispensing outlet, and a flow director for directing vapour away from the collector and towards the dispensing outlet.

20 17. A device according to claim 15 or 16, wherein the flow director comprises at least one of an ion wind generator and an air flow generator.

25 18. A device according to claim 15, 16 or 17, further comprising an attractor associated with the collector for attracting electrically charged droplets into the collector.

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19. A device according to claim 18, wherein the attractor comprises a collection electrode.

20. A device according to claim 15, 16, 17 or 18, wherein the collector is configured to inhibit dispersal of aroma or smell from the collector.

21. A device according to claim 15, 16, 17, 18 or 19, wherein the collector comprises an aroma suppressing material such as activated charcoal.

22. An aroma dispensing device, comprising:
means for supplying liquid to an outlet;
an electrical discharge means;
means for coupling one of said outlet and said electrical discharge means to a first potential and for coupling the other of said outlet and said electrical discharge means to a second, different, potential for causing an electric field to be generated at said outlet to produce a dispersion of aroma-providing droplets from liquid issuing from the outlet and for producing at said electrical discharge means ions to at least partially electrically discharge the dispersion, wherein said one of said outlet and said electrical discharge means is coupled to said first potential via a resistance.

23. A device according to claim 22, wherein said coupling means is arranged to couple said outlet to earth.

24. A device according to claim 22 or 23, wherein said coupling means is arranged to couple said other of said outlet and said electrical discharge means to a second potential which is positive with respect to said first potential.

25. An aroma dispensing device, comprising:
means for supplying liquid to an outlet;
an electrical discharge means;

means for coupling said outlet to a first potential representing electrical earth and said electrical discharge means to a second, different, potential for causing an electric field to be generated at said outlet to generate a dispersion of aroma-providing droplets using liquid issuing from the outlet and for producing at said electrical discharge means ions to at least partially electrically discharge the dispersion, wherein said outlet is coupled to said first potential via a resistance.

26. A device according to any of claims 22 to 25, wherein said resistance has a value in the range of from approximately 200 Mega Ohms to approximately 500 Mega Ohms.

27. A device according to any one of claims 22 to 25, wherein said resistance has a value of approximately 500 Mega Ohms.

28. A device according to any of the claims 22 to 27, wherein said resistance is provided by liquid in the liquid supplying means.

29. A device according to any of the claims 22 to 28, wherein the electrical discharge means surround or are provided on either side of the liquid outlet.

30. An aroma dispensing device, comprising:

means for supplying liquid to an outlet;

an electrical discharge means;

means for coupling one of said outlet and said electrical discharge means to a first potential and for coupling the other of said outlet and said electrical discharge means to a second, different potential for causing an electric field to be generated at said outlet to generate a dispersion of aroma-providing droplets using liquid issuing from the outlet and for producing at said electrical discharge means ions to at least partially electrically discharge the dispersion, wherein an attractor is provided for attracting ions generated by the electrical discharge means to facilitate directing of the dispersion towards a target location.

31. An aroma dispensing device, comprising a housing having an outlet and containing:

means for supplying liquid to a liquid outlet;

an electrical discharge means;

means for coupling one of said outlet and said electrical discharge means to a first potential and for coupling the other of said outlet and said electrical discharge means to a second, different, potential for causing an electric field to be generated at said outlet to generate a dispersion of aroma-providing droplets using liquid issuing from the outlet and for producing at said electrical discharge means ions to at least partially electrically discharge the dispersion, wherein at least a portion of the housing surrounding the housing outlet is electrically conductive, said electrical discharge means is positioned adjacent the housing outlet and said coupling means is arranged to couple the electrically conductive housing portion to a further potential so as to facilitate passage of at least partially electrically discharged droplets through the housing outlet.

32. A device according to claim 31, wherein the housing outlet is circular and is provided in a side wall of the housing, the electrical discharge means has a discharge point located, in use, slightly below a lowermost part of the housing outlet and the liquid outlet is or is approximately level with an uppermost part of the housing outlet in use.

33. A device according to claim 30, 31 or 32, wherein the electrical discharge means is arranged so as to point towards the liquid outlet.

34. A device according to any of claims 30 to 33, wherein the coupling means is arranged to couple one of said outlet and said electrical discharge means to a positive potential, the other of said outlet and said electrical discharge means to a negative potential and the attractor or housing position to electrical earth.

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35. A device according to any of claims 30 to 34, wherein the coupling means includes a resistance coupling the outlet to the first potential.

36. A device according to claim 35, wherein the resistance comprises a liquid path.

37. A device according claim 35 or 36, wherein the resistance is approximately 500 Mega ohms.

38. A device according to any one of the preceding claims, further comprising valve means for closing the liquid outlet.

39 A device according to claim 38 wherein the valve means is electrically operable.

40 A device according to claim 38 wherein the valve means comprises a piezoelectric actuator.

41 A device according to any of the preceding claims, comprising electric field generating means for generating an electric field to cause liquid to withdraw from the liquid outlet to the liquid supplying means.

42 An aroma dispensing device, comprising:
means for supplying liquid to an outlet;
an electrical discharge means;
means for coupling one of said outlet and said electrical discharge means to a first potential and for coupling the other of said outlet and said electrical discharge means to a second, different, potential for causing an electric field to be generated at said outlet to generate a dispersion of aroma-providing droplets using liquid issuing from the outlet and for producing at said electrical discharge means ions to at least partially electrically discharge the dispersion, wherein electric field

generating means are provided for causing liquid to be drawn into the liquid supply means away from the outlet when said outlet and electrical discharge means are not coupled to the coupling means.

5 43. A device according to any of the preceding claims, comprising control means for enabling the device to be activated in a predetermined manner which may be at a predetermined time, periodically or at a user settable time or times or a combination of the aforementioned possibilities.

10 44. A dispensing device comprising means for supplying a liquid to an outlet; comminution means for subjecting liquid issuing from the outlet to an electric field sufficient to cause comminution of the liquid; and means for activating the liquid supplying and comminution means at a predetermined time or times.

15 45. A device according to claim 44, comprising user operable means for controlling or adjusting the time or times at which the activation means is arranged to activate the liquid supplying and comminution means.

20 46. A device according to claim 43, 44 or 45, comprising a plurality of supplies of different liquids and means for controlling the generation of an electric field to cause comminution of each of the different liquids at different times.

25 47. An aroma dispensing device substantially as hereinbefore described with reference to the accompanying drawings.

48. An artificial flower arrangement incorporating a device in accordance with any one of the preceding claims.